



## POWER OF ATTORNEY FROM ASSIGNEE

Broadcom Corporation, a California corporation having a principal place of business at 16215 Alton Parkway, Irvine, California 92618-7013, is assignee of the entire right, title and interest for the United States of America (as defined in 35 U.S.C. § 100), by reason of an Assignment to the Assignee executed on 1-11-2002 of an invention known as **A DIRECT CONVERSION RF TRANSCEIVER FOR WIRELESS COMMUNICATIONS** (Attorney Docket No. BP1985), which is disclosed and claimed in a patent application of the same title by the inventors Zhongming Shi and Reza Rofougaran (said application filed on 1-18-2002 at the U.S. Patent and Trademark Office, having Application Number 10/052,870).

The Assignee hereby appoints the U.S. attorneys associated with Garlick, Harrison & Markison, LLP. to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith, such attorneys currently being: Bruce E. Garlick, Registration No. 36,520, James A. Harrison, Registration No. 40,401, Timothy W. Markison, Registration No. 33,534, Shayne X. Short, Registration No. 45,105, and Robert C. Strawbrich, Registration No. 36,692. The Assignee hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send correspondence to:

JAMES A. HARRISON  
GARLICK, HARRISON & MARKISON, LLP  
P.O. BOX 670007  
DALLAS, TEXAS 75367.

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JUN 18 2002

Technology Center 2600

Direct phone calls to James A. Harrison at (214) 902-8100.

FOR: BROADCOM CORPORATION

SIGNATURE: \_\_\_\_\_

BY: \_\_\_\_\_

William J. Ruehle

Vice President and Chief Financial Officer

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

January 28, 2002



BP 1985

**Certificate Under 37 C.F.R. § 3.73(b)**

Applicants: **Zhongming Shi and Reza Rofougaran**

Application No.: **Unknown**

Filing Date: **1-18-2002**

Entitled: **A DIRECT CONVERSION RF TRANSCEIVER FOR WIRELESS COMMUNICATIONS**

**Broadcom Corporation**  
(Name of Assignee)

**a , California Corporation**  
(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest, or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either:

A. ☒ An Assignment from the inventors of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel **012519** Frame **0947**, or for which a copy thereof is attached.

OR

B. ☐ A chain of title from the inventors of the patent application/patent identified above to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.

**[NOTE:** A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: **January 28, 2002**

Name: **William J. Ruehle**

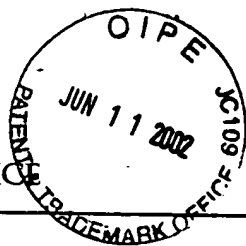
Title: **Vice President and Chief Financial Officer**

Signature:

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MARCH 27, 2002

PTAS

GARLICK HARRISON & MARKISON  
JAMES A. HARRISON  
P.O. BOX 670007  
DALLAS, TX 75367

Chief Information Officer  
Washington, DC 20231  
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\*101967933A\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 01/18/2002

REEL/FRAME: 012519/0947  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
SHI, ZHONGMING

DOC DATE: 01/11/2002

ASSIGNOR:  
ROFOUGARAN, REZA

DOC DATE: 01/11/2002

ASSIGNEE:  
BROADCOM CORPORATION  
16215 ALTON PARKWAY  
IRVINE, CALIFORNIA 92618-7013

SERIAL NUMBER: 10052870  
PATENT NUMBER:

FILING DATE: 01/18/2002  
ISSUE DATE:

JOANN STEWART, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS



02-01-2002

FORM PTO-1595

BP1985

U.S. Department of Commerce  
Patent and Trademark Office

101967933

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

- 1) Zhongming Shi
- 2) Reza Rofougaran

## 2. Name and Address of receiving party(ies):

Name: BROADCOM CORPORATION

Address: 16215 Alton Parkway

City: Irvine

State: CA Zip: 92618-7013

Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 3. Nature of Conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: 1-11-02

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## 4. Application number(s) or patent number(s).

☒ This document is being filed together with a new application.

Execution date of the application: 1-11-02

Title: A DIRECT CONVERSION RF TRANSCEIVER FOR WIRELESS COMMUNICATIONS

Docket No: BP1985

A. Patent Application No.(s)  
S.N.Additional numbers attached? ☐ Yes ☒ No

## B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

10/052870

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: James A. Harrison  
GARLICK HARRISON & MARKISON  
Address: P.O. Box 670007 City: Dallas  
State: TX Zip: 75367

## 6. Number of applications and patents involved: (1)

## 7. Amount of fee enclosed or authorized to be charged: \$40

DO NOT USE THIS SPACE

## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Jan 18, 2002  
Date  
James A. Harrison Reg. No. 40,401

01/31/2002 TDIAZ1 00000246 10052870

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JAN 18 '02 12:27 FR

U.S. Patent &amp; Trademark Office

Fax: 1 310-440-1000

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**ASSIGNMENT for Patent Application**

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to the undersigned inventors, Zhongming Shi and Reza Rofougaran, the undersigned inventors hereby sell and assign to Broadcom Corporation, a California corporation having a principal place of business at 16215 Alton Parkway, Irvine, California 92618-7013 (the Assignee) their entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

check applicable box (es) ☒ for the United States of America (as defined in 35 U.S.C. § 100 et seq.),  
☒ and throughout the world,

(a) in the invention known as **A DIRECT CONVERSION RF TRANSCEIVER FOR WIRELESS COMMUNICATIONS** for which application for patent in the United States of America has been executed by the undersigned on the date(s) indicated below in any and all applications thereon, in any and all Letters Patent(s) therefor, and

(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable:

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignors had this assignment and sale not been made.

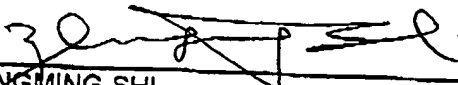
The undersigned inventors agree to execute all papers necessary in connection with the application and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding application(s) thereof and also to execute separate assignments in connection with such application(s) as the Assignee may deem necessary or expedient.

Each of the undersigned inventors agrees to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the application or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination application(s) thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.


Each of the undersigned inventors hereby represents that he has full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict therewith.

Each of the undersigned inventors hereby grants: Bruce E. Garlick, Registration No. 36,520, James A. Harrison, Registration No. 40,401, Timothy W. Markison, Registration No. 33,534, Shayne X. Short, Registration No. 45,105, and Robert C. Strawbrich, Registration No. 36,692; all of Garlick, Harrison & Markison, LLP, P.O. Box 160727, Austin, Texas 78716-0727, power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, executed by each of the undersigned inventors on the date opposite his name,

  
ZHONGMING SHI

Date: 1-11-2002

  
REZA ROFOUGARAN

Date: 1-11-2002